

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
17 January 2002 (17.01.2002)

PCT

(10) International Publication Number  
**WO 02/04774 A2**

- (51) International Patent Classification<sup>7</sup>: **E05F**
- (21) International Application Number: PCT/US01/41237
- (22) International Filing Date: 30 June 2001 (30.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/217,147 7 July 2000 (07.07.2000) US
- (71) Applicant (for all designated States except US): **APPLIED MATERIALS, INC.** [US/US]; 3050 Bowers Avenue, Santa Clara, CA 95054 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **WEAVER, William, Tyler** [US/US]; 1608 Grayford Street, Austin, TX 78704 (US).
- (74) Agents: **DUGAN, Valerie, G.** et al.; Dugan & Dugan, LLP, 18 John Street, Tarrytown, NY 10591 (US).

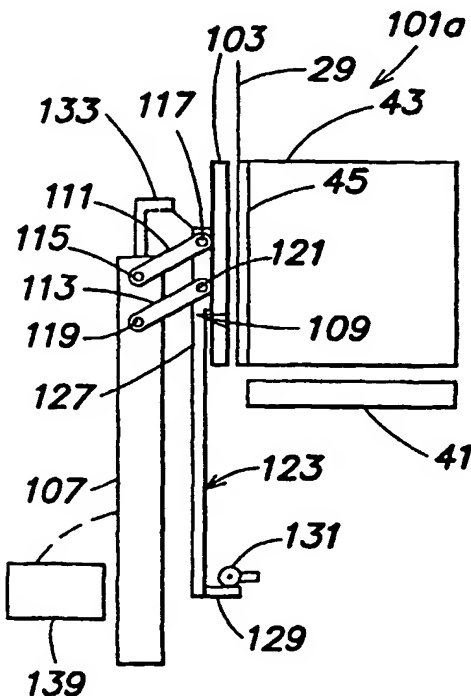
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AUTOMATIC DOOR OPENER



(57) Abstract: A wafer carrier opener is provided. The wafer carrier opener may eliminate the use of two separate actuators by using a four-bar linkage mechanism. The wafer carrier opener includes a wafer carrier door receiver, a horizontally stationary member, and a link coupled between the wafer carrier door receiver and the horizontally stationary member so as to allow horizontal movement of the wafer carrier door receiver.

WO 02/04774 A2